

Don E. Grissette
Vice President

Southern Nuclear
Operating Company, Inc.
40 Inverness Center Parkway
Post Office Box 1295
Birmingham, Alabama 35201

Tel 205.992.6474
Fax 205.992.0341



Energy to Serve Your World™

March 2, 2005

Docket No.: 50-424

NL-05-0321

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555-0001

Vogtle Electric Generating Plant – Unit 1
Licensee Event Report 1-2005-001
Automatic Reactor Trip Due to Broken Wire Connector

Ladies and Gentlemen:

In accordance with the requirements of 10 CFR 50.73, Southern Nuclear Operating Company hereby submits a Vogtle Electric Generating Plant licensee event report for a condition that was determined to be reportable on January 11, 2005.

This letter contains no NRC commitments. If you have any questions, please advise.

Sincerely,

Don E. Grissette

DEG/kgI/daj

Enclosure: LER 1-2005-001

cc: Southern Nuclear Operating Company
Mr. J. T. Gasser, Executive Vice President
Mr. W. F. Kitchens, General Manager – Plant Vogtle
RType: CVC7000

U. S. Nuclear Regulatory Commission
Dr. W. D. Travers, Regional Administrator
Mr. C. Gratton, NRR Project Manager – Vogtle
Mr. G. J. McCoy, Senior Resident Inspector – Vogtle

IE22

LICENSEE EVENT REPORT (LER)

(See reverse for required number of
digits/characters for each block)

06/30/2007

Estimated burden per response to comply with this mandatory collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by Internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

1. FACILITY NAME

Vogtle Electric Generating Plant – Unit 1

2. DOCKET NUMBER

05000- 424

3. PAGE

1 OF 4

4. TITLE

AUTOMATIC REACTOR TRIP DUE TO BROKEN WIRE CONNECTOR

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER(S)
01	11	2005	2005	001	00	3	2	2005		05000
9. OPERATING MODE			11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § : (Check all that apply)							
1			20.2201(b)		20.2203(a)(3)(ii)		50.73(a)(2)(ii)(B)		50.73(a)(2)(ix)(A)	
10. POWER LEVEL			20.2201(d)		20.2203(a)(4)		50.73(a)(2)(iii)		50.73(a)(2)(x)	
100			20.2203(a)(1)		50.36(c)(1)(i)(A)		X 50.73(a)(2)(iv)(A)		73.71(a)(4)	
			20.2203(a)(2)(i)		50.36(c)(1)(iii)(A)		50.73(a)(2)(v)(A)		73.71(a)(5)	
			20.2203(a)(2)(ii)		50.36(c)(2)		50.73(a)(2)(v)(B)		OTHER	
			20.2203(a)(2)(iii)		50.46(a)(3)(ii)		50.73(a)(2)(v)(C)		Specify in Abstract below or in NRC Form 366A	
			20.2203(a)(2)(iv)		50.73(a)(2)(i)(A)		50.73(a)(2)(v)(D)			
			20.2203(a)(2)(v)		50.73(a)(2)(i)(B)		50.73(a)(2)(vii)			
			20.2203(a)(2)(vi)		50.73(a)(2)(i)(C)		50.73(a)(2)(viii)(A)			
			20.2203(a)(3)(i)		50.73(a)(2)(ii)(A)		50.73(a)(2)(viii)(B)			

12. LICENSEE CONTACT FOR THIS LER

NAME

Tom Webb, Performance Analysis

TELEPHONE NUMBER (Include Area Code)

(706) 826-3105

13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
B	EL	CBL	Unknown	N					

14. SUPPLEMENTAL REPORT EXPECTED

YES
(If yes, complete EXPECTED SUBMISSION DATE)

X NO

15. EXPECTED
SUBMISSION
DATE

MONTH DAY YEAR

16. ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On January 11, 2005, an automatic turbine trip / reactor trip occurred due to a main generator protective relay lockout. A normal reactor trip sequence ensued and the control room staff responded by transitioning the unit to operation in Mode 3 (Hot Standby).

A continuity check of field connections for the protective relay showed very high resistance through an auxiliary potential transformer which is connected to the secondary of the generator neutral grounding transformer. Inspection of the connection revealed that a wire on a terminal strip in the secondary circuit wiring of the auxiliary potential transformer had failed and disconnected when touched. The high resistance measurement at the potential transformer was apparently due to this failed connection. An analysis of the failed connection determined there was prior damage to the wire at the point where the lug was attached. The damage most likely occurred when the lug was first installed prior to initial plant startup. Over time, the remaining conductors fatigued due to vibration until the high resistance connection developed. As a result of the high resistance the relay sensed an invalid fault. The connection was repaired and the unit was returned to power operation.

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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

A. REQUIREMENT FOR REPORT

This report is required per 10 CFR 50.73 (a)(2)(iv) because an unplanned actuation of the reactor protection system occurred.

B. UNIT STATUS AT TIME OF EVENT

At the time of this event, Unit 1 was operating in Mode 1 (power operation) at 100% of rated thermal power. Other than that described herein, there was no inoperable equipment that contributed to the occurrence of this event.

C. DESCRIPTION OF EVENT

On January 11, 2005, at 0719 EST, an automatic turbine trip / reactor trip occurred due to a main generator protective relay lockout. Control rods inserted, main feedwater isolated and the auxiliary feedwater system actuated per the plant design. The control room staff responded by transitioning the unit to normal operation in Mode 3 (Hot Standby).

D. CAUSE OF THE EVENT

Following the reactor trip, a walkdown of the Main Control Room Protective Relay Panel revealed that Main Generator Lockout Relay 386-G3 had rolled and that a target was displayed on relay 364NG.

Subsequent investigations revealed that protective relay 364NG appeared to be in calibration and functioning properly. However, a continuity check of its field connections showed very high resistance through an auxiliary potential transformer which is connected to the secondary of the generator neutral grounding transformer. Once the generator was tagged out and scaffolding erected to access the electrical equipment in the generator dome, an inspection of the protective relaying connections revealed that wire "G4" on a terminal strip in the secondary circuit wiring of the auxiliary potential transformer was damaged after it was touched. The high resistance measured from the relay was apparently due to this failed connection. After repair of the lug and visual inspection of the remaining wiring, the circuit resistance check was satisfactory.

Based on further inspection and analysis, the failed conductor in the main generator dome is attributed to prior damage to the wire at the point where the lug was attached. The lug was the appropriate size and appeared to have been properly crimped. The wire damage may have occurred when the lug was first installed prior to initial plant startup, and it may also have been caused and/or

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exacerbated by personnel accessing the generator dome space. Over time, the damaged conductors fatigued due to vibration until a high resistance connection developed. Decreasing voltage to the 364NG relay due to the high resistance connection eventually tripped the relay.

Contributing to the cause of this event was that no specific inspections or testing were performed that may have discovered the degraded connection prior to failure.

E. ANALYSIS OF EVENT

The reactor trip and subsequent AFW actuation occurred as designed. Control room personnel acted appropriately to maintain the proper steam generator water levels during the event and to transition the unit safely into Mode 3.

Based on these considerations, there was no adverse effect on plant safety or on the health and safety of the public as a result of these events.

This event does not represent a safety system functional failure.

F. CORRECTIVE ACTIONS

- 1) The damaged connection was repaired and the unit was returned to power operation.
- 2) Preventive maintenance instructions will be revised to include a specific inspection of electrical and mechanical components within the generator dome area. The instructions will provide details covering all critical components and will be implemented as a close out inspection of the dome area. The generator dome inspections detailed in the revised instructions will be performed during the next refueling outage in each unit. Both are scheduled to be completed in 2005.

G. ADDITIONAL INFORMATION

- 1) Failed Components:
Copper cable #14 AWG – Manufacturer unknown
- 2) Previous Similar Events:
There have been no previous similar events in the last three years.
- 3) Energy Industry Identification System Code:
Main Feedwater System – SJ

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Auxiliary Feedwater System – BA
Control Rod Drive System - JD
Main Generator Control Power System - EL